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# THE AGRICULTURAL SITUATION

APRIL 1941

*A Brief Summary of Economic Conditions*

Issued Monthly by the Bureau of Agricultural Economics, United States Department of Agriculture

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FARM SKIES ARE A LITTLE BRIGHTER. Domestic consumer demand for farm products is rising as industrial production and employment expand under programs for national defense. To this has been added now the purchasing program covering farm products for export under provisions of the Lease-Lend Act. \* \* \* The agricultural plant is in top physical condition to provide for domestic and foreign needs. Besides abundant resources for the production of food, feed, and fibers large stocks have been laid by for emergency needs. These include large stocks of cotton, wheat, and tobacco. Large supplies of feed grains are available for conversion into meats and other livestock products. Large supplies of fats and oils already exist. A new planting season is well under way, and farmers have reported approximately the same acreages to be grown this year as last. \* \* \* Prices of all farm products combined average the highest in 4 years. In especially good position are the livestock and dairy industries. Less satisfactory is the price situation as to cotton and wheat. Total farm income—rising seasonally now—is expected to exceed 1940 figures.

# Commodity Reviews

## DEMAND: Improvement

**A**DDITIONAL improvement in domestic consumer demand for farm products is in prospect for the remainder of this year. The improvement probably will be more gradual than during the last half of 1940, when industrial activity, employment, and consumer incomes were rising so sharply; nevertheless, the total demand will likely be in new high ground since the outbreak of the European War in the autumn of 1939.

Recent gains in consumer demand for farm products have been principally the result of increased industrial production for national defense and export to Great Britain. But the full beneficial effects of the national defense program have not yet been realized. Military expenditures are still rising. These expenditures totaled 24 million dollars a day in March, or more than three times the daily average of last September. Production in new defense plants to be completed in large number by midyear will become increasingly important.

At the outbreak of European War there was a sharp increase in United States exports of farm products—principally cotton exports. Exports subsequently declined, and this has offset to some extent the effects of the substantial gains in domestic demand for farm products on farm prices and income. New developments—passage of the Lease-Lend Act, the possibility of increased food shipments to unoccupied France and to Spain, and new dollar credits to Finland—suggest some improvement in the export situation.

P. H. BOLLINGER.

## INCOME: Rising

Cash farm income is rising seasonally now, and the total from marketings and Government payments will prob-

ably be larger in the second quarter of this year than in the like period of 1940. Basis for this is the expectation that income from livestock and livestock products will continue to show substantial increases over the corresponding months of last year, that income from crops also will increase. Government payments will be smaller.

Total during the first quarter was slightly larger than in the like period of 1940. Income was about the same this January and February as last but the total in March was a little larger than in March last year. Returns from marketings of grains, vegetables, and tobacco were smaller in the first 2 months of this year compared with last; income from cotton and cottonseed, fruits, meat animals, dairy products, and poultry and eggs was larger.

Cash income from crops usually declines through April, then increases until October. Possibly the low point for this year was in February. Higher wheat prices in March made profitable in some areas the redemption of wheat under Government loan, and this probably added to income in that month. Income from truck crops is likely to increase more than seasonally as the spring market gets underway.

The following table gives totals for the first 2 months of 1941, with comparisons for previous years.

Month and year	Income from marketings	Income from Government payments	Total
	<i>Million dollars</i>	<i>Million dollars</i>	<i>Million dollars</i>
February:			
1941.....	547	82	629
1940.....	545	98	643
1939.....	471	56	527
1938.....	453	31	514
January-February:			
1941.....	1, 214	169	1, 383
1940.....	1, 162	224	1, 386
1939.....	1, 064	97	1, 161
1938.....	1, 126	48	1, 174

## PRICES: Higher

Prices of farm products average around the high point since the outbreak of the European War. The index as of mid-March was 103, but there were subsequent gains when wheat prices advanced to the best level

### Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid	Buying power of farm products <sup>1</sup>
<b>1940</b>			
March.....	97	123	79
April.....	98	123	80
May.....	98	123	80
June.....	95	123	77
July.....	95	122	78
August.....	96	122	79
September.....	97	122	80
October.....	99	122	81
November.....	99	122	81
December.....	101	123	82
<b>1941</b>			
January.....	104	123	85
February.....	103	123	84
March.....	103	123	84

<sup>1</sup> Ratio of prices received to prices paid.

for the season. Prices of truck crops and cotton went up, but hogs were selling lower than at the turn of the new calendar year. The mid-March index of prices of all products combined was 6 points higher than at that time last year.

The outlook is for a higher average of prices of farm products this year than last, since signs of improvement in domestic consumer demand have not diminished, and to this has been added the prospect for increases in exports of farm products over the recent low volume. Among the major groups of products, grains, cotton and cottonseed, and fruits sell considerably below pre-World War averages. These would have to advance considerably to raise the purchasing power of all farm products combined to pre-war figures.

Products selling highest in relation to pre-war values are meat animals, dairy products, and truck crops.

## PLANTINGS: Intentions

Farmers the country over have reported their planting intentions for 1941. Significant are the changes to

## Prices of Farm Products

Estimates of average prices received by farmers at local farm markets based on reports to the Agricultural Marketing Service. Average of reports covering the United States weighted according to relative importance of district and States.

Product	5-year average, August 1909-July 1914	March average, 1910-14	March 1940	February 1941	March 1941	Parity price, March 1941
Cotton, lb.....	cents.. 12.4	12.4	9.96	9.44	9.72	15.87
Corn, bu.....	64.2	61.3	56.0	56.0	57.1	82.2
Wheat, bu.....	88.4	88.9	85.0	67.8	71.8	113.2
Hay, ton.....	dollars.. 11.87	12.06	18.23	7.88	7.93	15.19
Potatoes, bu.....	cents.. 69.7	67.5	77.0	54.6	53.8	287.6
Oats, bu.....	do.. 39.9	40.3	38.6	32.9	33.7	51.1
Rice, lb.....	81.3	(3)	63.3	96.3	97.1	104.1
Apples, bu.....	dollars.. .96	1.11	.85	.93	.97	1.23
Beef cattle, cwt.....	do.. 5.21	5.29	7.16	8.34	8.28	6.67
Hogs, cwt.....	do.. 7.22	7.41	7.87	7.19	7.08	9.24
Chickens, lb.....	cents.. 11.4	11.4	12.8	14.0	14.4	14.6
Eggs, doz.....	do.. 21.5	19.6	15.4	16.8	16.4	21.8
Butterfat, lb.....	do.. 26.3	27.1	28.3	30.5	30.7	35.0
Wool, lb.....	do.. 18.3	18.7	27.3	32.1	33.4	23.4
Veal calves, cwt.....	dollars.. 6.75	6.92	8.81	10.11	9.74	8.64
Lambs, cwt.....	do.. 5.87	6.22	8.05	8.60	8.92	7.51
Horses, each.....	do.. 136.60	138.40	78.20	70.40	69.60	174.80

<sup>1</sup> Revised. <sup>2</sup> Post war base. <sup>3</sup> Prices not available. <sup>4</sup> Adjusted for seasonality.

be made in acreages of various cash crops in response to price changes. Some rather large reductions in spring crops are indicated in parts of the West where much improved moisture conditions last fall permitted the planting of an increased acreage of winter wheat.

For the country as a whole the most important decreases indicated are in spring wheat, grain sorghums, corn, barley, potatoes, soybeans, flaxseed, dry edible beans, and tobacco. (Acreage planted to corn would be the smallest in more than 40 years; potatoes, the smallest since 1926.) Principal increases include oats, tame hay, sweetpotatoes, and cowpeas. Reports on peanuts show prospects for about the same acreage as last year. The net decreases indicated for these crops will probably be about offset by an increase of 3 million to 4 million acres of winter wheat and rye.

AMS says that after allowing for shifts between similar crops, most of the changes from last year's acreages appear rather small. The intended increase in oats partially offsets the indicated decreases in barley, corn, and grain sorghums, leaving only about a 1-percent decrease in plant-

ings of feed grains. The decrease in spring wheat offsets part of the increase in winter wheat, indicating a total wheat acreage perhaps 1 million acres above that of last year, and 4 million acres below the average of the last 20 years. The indicated acreage of tame hay is the largest on record.

## COTTON: Higher

Cotton has been selling slightly higher than at corresponding dates last year, in response to a continuing high level of cotton mill consumption. Recently consumption has been at an annual rate of 9½ million bales. Total domestic consumption for 1940-41 will probably be between 9 and 9.5 million bales. Recent exports have been small. Exports from August through March totaled only 780 thousand bales, as compared with more than 5 million bales in the like period of 1939-40.

British cotton mill activity has been reduced by Government restrictions designed to release labor and power for use in munitions plants. This reduces the demands of the British cotton industry for shipping space and foreign exchange. Cotton mill consumption in Japan and the remainder of the Orient is unusually small, but consumption in Canada and India is at near-record high levels.

The supply of all growths of cotton in the United States for the 1940-41 season was slightly more than 23 million bales. With prospects for consumption and exports estimated at less than 10.5 million bales, the carry-over on August 1 next would be above 12.5 million. This would be over 2 million bales more than at the beginning of the current season on August 1 last. The largest carry-over on record was 13 million bales in 1939.

## WHEAT: Big Supply

The domestic wheat supply for 1941-42 is tentatively placed at about 1,200 million bushels, based on a winter wheat crop indicated as of December 1 at about 633 million bushels, a spring

United States: Planted Acreages 1930-39 and 1940, and Prospective Plantings for 1941

Crop	Average 1930- 39	1940	Indi- cated 1941	1941 as per- cent of 1940
	Thou- sands	Thou- sands	Thou- sands	
Corn, all.....	101,081	88,143	87,656	99.4
All spring wheat.....	21,762	18,547	17,137	92.4
Durum.....	3,418	3,431	2,925	85.3
Other spring.....	18,344	15,116	14,212	94.0
Oats.....	39,196	36,237	37,102	102.4
Barley.....	12,713	14,759	14,348	97.2
Flaxseed.....	2,406	3,403	3,341	98.2
Rice.....	943	1,090	1,154	105.9
Grain sorghums, all.....	8,674	10,978	9,679	88.2
Potatoes.....	3,365	3,104	2,988	96.3
Sweetpotatoes.....	882	772	835	108.2
Tobacco.....	1,678	1,427	1,404	98.4
Beans, dry edible.....	1,942	2,009	1,855	92.3
Soybeans <sup>1</sup> .....	5,467	10,528	9,788	93.0
Cowpeas <sup>1</sup> .....	2,647	3,120	3,217	103.1
Peanuts <sup>1</sup> .....	1,951	2,390	2,396	100.3
Tame hay <sup>2</sup> .....	56,102	61,592	62,398	101.3

<sup>1</sup> Grown alone for all purposes. Partly duplicated in hay acreage.

<sup>2</sup> Acreage harvested.

wheat crop of 180 million bushels (computed on the basis of average yields on the prospective plantings), and a carry-over on July 1, 1941 estimated at about 380 million bushels. A supply of 1,200 million bushels would be second only to the high record of 1,250 million bushels in 1931-32.

As for the utilization of this near-record supply of wheat, it is expected that domestic disappearance will total about 675 million bushels, leaving 525 million for export and carry-over. Exports will probably be larger than the 30 to 35 million bushels shipped out of the country this year; even so, the carry-over on July 1 a year hence will likely set a new high record.

Wheat has been selling lower this season than last, but prices are expected to continue to average relatively high as compared with prices in other surplus-producing countries so long as the Government loan and export subsidy programs are continued. A Government loan on the new crop soon to be harvested in this country is dependent upon a favorable vote in the national marketing quota referendum tentatively announced for May 31.

The world wheat crop may be about the same this year as last. Some increase in Europe and Australia is in prospect, but this may be counterbalanced by reductions in Argentina and Canada.

## FEED: Plentiful

Supplies of all kinds of feed are more than enough for current domestic needs. The surplus in Government and private storage makes large supplies available for any expansion which may be desired in the production of livestock products for export under provisions of the Lease-Lend Act. Such an expansion may reduce earlier estimates of the carry-over of old corn at the end of the present marketing year. The carry-over, however, will still be large—probably fully as large as the record carry-over on October 1 last. Expansion in production

of livestock products would result in increased consumption of byproduct feeds, which are in large supply on account of the loss of continental European markets for such feeds.

Feed requirements for domestic production of livestock and products are smaller this year than last, since there are approximately 4 percent fewer grain-consuming animals on farms. The reduction is principally in hogs, production having been diminished because of the unfavorable relationship between hog prices and corn prices during the past year. This ratio is now above the long-time average, a situation that forecasts a larger pig crop this fall than last.

## CATTLE: Up

More cattle will probably be marketed this year than last, but prices are expected to average higher on account of improved consumer demand and a reduction in total livestock slaughter. (Total livestock slaughter will be smaller this year because of the sharp reduction in production and marketings of hogs.)

The number of cattle on feed last winter was close to the largest on record. This indicates relatively large supplies of grain-fed cattle this summer and fall, but the peak in marketings may be a little later than usual since a large proportion of the cattle shipped into the Corn Belt last fall and early winter were lightweight stockers and feeders. Meanwhile, the number of cattle on farms and ranches continues to increase.

Cattle on farms totaled 71.7 million head on January 1. The largest number on record was 74.3 million head in 1934. In some States, particularly the Corn Belt, cattle numbers are above the 1934 level, but in the Great Plains area they are still substantially below the 1934 figure. Since cattle prices are high in relation to prices of feed and other farm products, it is expected that farmers and ranchers will continue to build up herds for 2 or 3 more years.

The 1934 peak in cattle numbers will probably be exceeded before a downward trend in numbers gets under way.

## HOGS: Outlook

Outlook for hog production and prices has not changed materially in recent months. Production: Substantially smaller this spring than last. Prices: Substantially higher. Hog-Corn Price Ratio: Favorable to hog producers, resulting in increased production of pigs next fall, and in the spring of 1942.

Current prices—considerably higher than in the spring of 1940—reflect last year's reduced pig crops. Hogs marketed from April through September will be 15 percent smaller in volume this year than last. Hogs on farms January 1 totaled 53 million head, about 7 million head fewer than a year earlier. There is close relationship between hog slaughter during the January-September period and hog numbers on January 1. Slaughter under Federal inspection during this period will total about 30 million head. Slaughter in the same period last year was 34 million head.

Domestic consumer demand for meats is increasing; to this must be added prospects for exports to Great Britain under the provisions of the Lease-Lend Act. Storage stocks of pork are much larger than at this time last year, but the total supply of pork—storage stocks plus marketings—is smaller than in 1940. The supply and demand situation seems to point unmistakably to higher prices to producers this year than last.

## LAMBS: Increase

The 1941 lamb crop may be the largest on record, exceeding slightly the 32.7 million head raised last year. This is indicated by an increase of nearly 500 thousand breeding ewes on farms and ranches January 1 this year compared with last. Sheep wintered well in the Western Sheep States, and

are in better condition this spring than last. Spring feed conditions are generally favorable, and the number of lambs saved per 100 ewes will be at least as large as the number saved last year.

Marketings of sheep and lambs for slaughter are expected to increase seasonally this month and next, and the total will be a little larger than during the same period last year. The number of early lambs marketed before July 1 probably will be larger this year than last. Even so, prices will be supported by the improved consumer demand for meats and by higher prices for wool. Both lambs and wool are among the few farm commodities selling higher than parity.

## WOOL: Active

A new wool marketing season is underway, with conditions pointing to higher prices and larger income to producers this year than last. Domestic production may set a new high record of more than 450 million pounds of shorn and pulled wool. Production in 1940, only slightly below this figure, yielded producers a cash income of better than 110 million dollars. This compares with 84 million dollars in 1939.

Mills readily consumed the 1940 clip at prices higher than in 1939, and took on as well the largest volume of imports since 1923. Despite the larger supply of wool—domestic production plus imports—the stocks of raw wool in this country on April 1 were smaller than the average for recent years. Mill consumption will probably be larger this year than last, in view of current and prospective military and civilian needs.

Total supplies of wool in foreign countries, available for shipment to the United States, are relatively large. Since shipments of wool to European countries have been largely cut off by the British blockade, the only important markets for exports from the

Southern Hemisphere are the United States, Great Britain, and Japan.

## POTATOES: Big Supply

Twenty-four thousand acres were planted to potatoes in the first section of early States this season. This was about 10 percent more than in 1940. Growers in the second section of early States indicated intentions to increase their plantings by 5 percent. Production may be increased more than the acreage change alone would indicate. (Average yields per acre have been rising as a result of the introduction of higher yielding varieties in the early producing States in recent years.) The market supply of potatoes will probably be larger this spring than last. Prices are below those of a year ago.

## TRUCK CROPS: Reduced

Market supplies of truck crops have been smaller than had been expected earlier in the season. It was indicated then that the combined acreage of 1941 truck crops for harvest during the winter and spring was 5 percent larger this year than last. Bad weather intervened, but it was expected in early March that with average growing conditions through early April the supplies of truck crops should become moderately plentiful. Some truck crops have been selling higher than in early 1940, favored by the smaller supply and by improved consumer demand. \* \* \* Shipments of canned vegetables have been heavy this marketing season, the carry-over is smaller than is usual at this time of year, and acreages planted this year probably will be larger. Prices and income to growers should be higher this year than last.

## DAIRYING: Good Year

Signs point to a good year for dairymen. Production of milk will probably set a new high record, the do-

mestic demand for dairy products is increasing, and to this has now been added the prospect for larger shipments of concentrated dairy products to Great Britain. Prices to dairymen and the manufacturers of dairy products are higher than at this time last year. Cash income to dairymen will probably exceed 1.5 billion dollars in 1941, or almost one-sixth of the total cash income to producers of all farm products.

Estimates are that there are approximately 26 million milk cows on farms. The largest number on record was 27 million in 1934. Probabilities are that this number will be exceeded in the next few years, since the number of young dairy stock on farms already is the largest on record. Much depends, of course, on the supply and prices of feed during this period, and the continuance of a high level of demand for milk and dairy products.

## FATS, OILS: Prices Up

Production of domestic fats may be smaller this year than last, principally on account of reduced production of lard. Already the reduction in hog production is being reflected in a smaller output of lard; prices of lard have advanced sharply in recent months, and now average higher than at this time last year.

Considerably less lard will be produced this year than last, but storage stocks—totaling 317 million pounds—on March 1 were the largest on record for that date. Stocks will probably continue to increase through June. Even though exports should be increased this year, stocks of lard at the end of 1941 will be relatively large.

The general level of prices of all fats and oils is slightly higher than at this time last year, but is considerably below the 1924-29 average. Oils selling substantially higher this February than last included cod-liver, olive, and sardine; corn oil and butter were moderately higher; edible beef fats, soybean oil, cottonseed oil, linseed oil, oiticica oil, perilla oil, inedible

tallow and greases, palm oil, peanut oil, and castor oil were 5 to 25 percent lower.

## FRUITS: New Season

Strawberries move into the center of the fruit situation this month, as big shipments roll to market from Texas and Louisiana, to be followed by supplies from Alabama, Georgia, the Carolinas, and other Southern States. Market supplies were light during March, but a different situation prevails now, and the fruit stands in all the big consuming markets are displaying plenty of fresh berries. Consumer demand is better this year than last, and the crop is expected to yield producers a larger cash income. (Cash farm income from strawberries totaled close to 41 million dollars last year, slightly less than 39 million in 1939, more than 37 million in 1938, and more than 42 million in 1937.)

Apples have been selling higher this season than last, pears have brought slightly higher prices on the New York auctions, and California citrus (not Florida) has been selling higher. Oranges are a high record crop this year, estimated in March at 82.3 million boxes, as compared with 75.6 million last year. An unusually large portion of the early and midseason crop in Florida was used by processing plants. The grapefruit crop was estimated in March at 40 million boxes, as compared with 35 million last year. The largest crop on record was 46.4 million boxes in 1938-39.

## POULTRY: Increase

Five to 10 percent more chickens will probably be raised on farms this year, a further expansion of the commercial broiler industry is in prospect, and production of turkeys may be about the same this year as last. Chickens are higher priced this spring than last, since supplies of poultry are smaller and consumer demand is

larger. Helping the poultry price situation also is the smaller supply of pork this season than last.

Hatchery chick production in February was 67 percent larger than a year earlier, the number of eggs set was 24 percent larger, and the number of chicks booked on March 1 for later delivery was 27 percent larger. All sections of the country reported increases in the number of eggs set and chicks hatched, several factors contributing to the increase: A favorable hatching season, abundant supplies of eggs, an upward movement in the 3-year cycle of production, and a heavy demand for broiler chicks.

## EGGS: Production

Production of eggs has been setting new high records even though there are fewer layers on farms as compared with a year ago. But consumer demand is stronger, and prices of eggs in 1941 are expected to average higher than in 1940. Average of prices in March and early April was higher than at the same time last year. Annual peak of production is in April, followed by a slight decrease in May, and then by a downward slope through November. Consumer demand should be good during this entire period. The feed-egg price ratio improved in early March, and the ratio is expected to average more favorable than a year earlier during the important egg-producing months this spring and summer.

(A study by BAE shows that the trend in the cost of producing eggs has been definitely downward for 20 years. Lower feed costs per dozen eggs have been a large factor in this situation; another is that efficiency in production methods has been raised. Hens nowadays produce more eggs. This was abundantly revealed last winter when total production of eggs exceeded that of a year earlier despite fewer layers on farms.)

FRANK GEORGE.

# SHARING IN THE DEFENSE PROGRAM

*THE national defense program brings to individuals both sacrifices and benefits. Despite all efforts to equalize the sacrifices, some will contribute more than others. Likewise, conditions cannot be so arranged that everyone will share equally in the increase in national purchasing power which is expected to result from the war stimulated industrial expansion. Already, difficult problems have arisen in connection with the desires of various groups to protect their interests under the defense program.*

**T**HE rapid rise of business activity under the stimulation afforded by war-time exports and the national defense program has brought greater employment, wages, and industrial profits. People in general have more money to spend for commodities and services, including farm products. When consumer purchasing power increases, prices and incomes received by farmers also advance. Such a tendency is noted as the defense program progresses.

But many sincere persons think that food prices should not be permitted to experience further substantial increases, because this would contribute to an "inflationary price spiral" and be unfair to industry and labor. Industrial price advances are being held down or prevented as far as practicable, and the wages of many people have not risen. Would it be unfair, then, to allow farm prices to rise without controls similar to those exercised in connection with industrial prices? The answer depends partly upon a consideration of the way in which industrial profits, the returns to labor, and farm prices and income react to shifting business conditions.

**W**HEN as a result of business depression the demand for goods slackens, many producers of industrial products attempt to prevent a drastic decline in prices by reducing production. Labor, also, more or less successfully attempts to retain rates of pay prevailing before the decline in demand, permitting the depression to

take effect in reduced employment rather than lower wage rates. This combination of industrial and labor policies results in throwing onto the general public the burden of upkeep of a considerable proportion of the formerly employed workers.

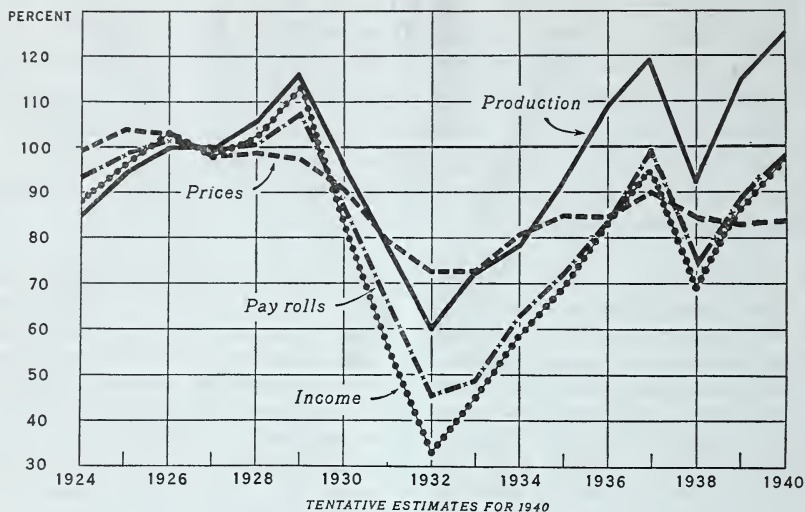
Farmers, fortunately for the general public, do not find it profitable to react to a depression in the same way as industry and labor. When an industrial concern reduces output it also substantially reduces its expenses of production. The expenses of agricultural production, on the other hand, are largely fixed regardless of the quantities produced. Mainly for this reason, farmers continue to produce about as much during a business depression as they did before the latter set in, and the full effects of the decline in demand for their products are reflected in lower prices.

When business recovers and the demand for products increases, business concerns respond by increasing output, selling more goods at the same or slightly higher prices. This brings larger industrial profits, and increases employment and industrial pay rolls. Farmers, who have not previously reduced their output to any extent, can gain only through an increase in prices received for the products which they have continued to produce in ample volume throughout the depression. This increase in prices raises farm income.

These tendencies on the part of industry, labor, and agriculture are shown in the accompanying charts.

**MANUFACTURES: INDUSTRIAL PRODUCTION, WHOLESALE PRICES  
OF FINISHED PRODUCTS, INCOME, AND FACTORY  
PAY ROLLS, UNITED STATES, 1924-40**

INDEX NUMBERS (1924-29=100)

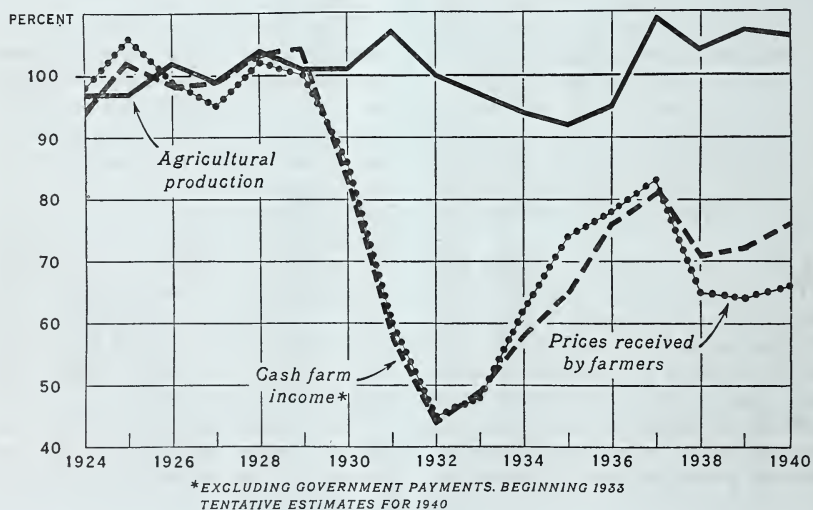


It will be observed that in the depression years, despite the attempt of industry to hold up prices and decrease expenses by reducing output, the net income of industrial corporations declined as much as or more than cash farm income. And despite resistance on the part of labor to wage rate decreases, total factory pay rolls also

declined severely. Taken as groups, the owners of industrial enterprises, labor, and farmers are all affected adversely, and in a surprisingly similar degree, by a severe business depression. Likewise, the percentage gains from business recovery, although not exactly the same for these groups, are surprisingly similar. Each of these

**AGRICULTURAL PRODUCTION, AND PRICES AND CASH INCOME  
RECEIVED BY FARMERS, UNITED STATES, 1924-40**

INDEX NUMBERS (1924-29=100)



groups, swimming in the same waters but using different strokes, is affected very much the same by the alternating waves of prosperity and depression. In the recovery since 1932, however, agriculture has not gained as much as industry and labor partly because of the loss of export outlets.

WE are now in an advancing phase of the domestic business economy, with the unusually sharp rise in 1940 due in considerable measure to the expansion of Government expenditures for defense and exports of armaments to Great Britain. From August 1939, the month before the war began, to November 1940 (the last month for which data on all of the following items are available) factory pay rolls and cash income from farm marketings experienced very similar percentage gains. Profits of industrial corporations rose by an even greater proportion. As would be expected, these gains have come about largely through a substantial increase in the output of industrial products with relatively small changes in prices of such commodities, a marked increase in factory employment with relatively stable hourly wage rates, and a moderate rise in prices of farm products with only a small change in marketings. This is shown in the following table.

# Index Numbers, Seasonally Corrected, November 1940

[August 1939=100]

Item	November 1940
Profits of industrial corporations.....	181.7
Factory production.....	126.2
Wholesale prices of nonagricultural products.....	105.0
Factory pay rolls.....	128.4
Factory employment.....	115.4
Factory hourly wage rates.....	106.9
Cash income from farm marketings.....	119.5
Volume of agricultural production.....	103.0
Wholesale prices of farm products.....	111.8

Naturally, people hope that the defense effort will not make necessary any curtailment in standards of living or lead to extreme price inflation simi-

lar to that which occurred in some past war periods. In dealing with these and other defense problems, we should remember the contrasting manner in which industry, labor, and agriculture respond to and participate in changes in the total volume of productive activity and national income. There is good reason for not placing farm products in the same category as industrial products with respect to all phases of price regulation. To prevent farmers from receiving any price increases arising out of the greater business activity and consumer purchasing power would, in effect, be the same as preventing industry from selling more goods, or labor from benefiting from a fuller measure of employment.

INEVITABLY taxes and costs of production incurred by industrial firms will rise to some extent during the period of defense activity. Large increases in costs, such as considerably higher wage rates, probably would necessitate price increases. But, as partially indicated by the foregoing table, the increase in production of industrial products and consequent reduction in overhead expense per unit of output makes it possible for producers of industrial commodities to absorb some increases in costs without any widespread or marked increase in prices.

Labor gains from the increased industrial activity in several ways: Through increased employment, more hours worked per week at the prevailing hourly wage rates, and in some cases higher wage rates. It is true that some wage earners who have been fully employed and who do not participate in wage increases do not benefit in any of these ways. It is well to keep in mind, however, that from 1929 to 1940 factory wage rates per hour increased 18 percent, while the cost of living declined 18 percent and the cost of food included in the family budget declined 27 percent.

Evidently, therefore, a considerable rise in living and food costs would have to occur before wages now received would be out

of line with the buying power of factory wages in what have been considered the prosperous years just before the great depression. Many workers who have continued to be employed since 1929 have benefited by a large reduction in food costs which was not accompanied by a corresponding decrease in earning power. They should now have no objections to farmers' sharing in any general prosperity accompanying the defense program.

Also, increases in prices of farm products may not have the same price inflationary effects as might increases in prices of industrial products or wage rates under present conditions. If the prices of industrial products are increased and the resulting higher costs of living bring about a rise in wage rates, costs of producing the industrial products are again increased. This may lead to a further rise of industrial product prices and a continuation of the upward spiral of higher living costs, wages, and prices. If, on the other hand, higher prices for farm products should result in successful demands for higher industrial wage rates, the latter may not affect the costs of producing agricultural products or the output of such products sufficiently to bring a further rise in food prices. In other words, in the chain of events sometimes referred to as the "vicious inflationary spiral" rises in prices of agricultural products do not con-

tribute in the same manner or have the same effects as rises in prices of industrial products or wage rates.

IN general, therefore, an equitable distribution of the benefits of "prosperity" brought on by the defense program would mean:

(1) Larger output of industrial products in response to increased demand, with lower per unit costs and larger total profits for industrial concerns resulting therefrom;

(2) A large increase in employment of labor, with perhaps some moderate increases in wage rates which have been out of line with others, resulting in a larger total volume of purchasing power for labor;

(3) Substantial recovery in prices of farm products from the levels prevailing in preceding years when demand conditions made necessary the sale of an undiminished volume of farm products at prices out of line with those obtained by industry and labor. This would give agriculture increased purchasing power which, except for some individual farm products, it could not obtain by increasing the already large volume of output.

F. L. THOMSEN.

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## Freezer Locker System Expands

A SIGNIFICANT development in food processing and distribution in recent years has been the rapid growth of the frozen food locker system. More than 1,000,000 such lockers are now available in something over 3,200 plants, it is estimated. Although individual frozen food lockers for preserving perishable foods at low temperatures were used in Nebraska some 25 years ago and in the Pacific Northwest as early as 1920, this enterprise has made its most rapid growth during the past 5 years.

In a Nation-wide survey made by the Cooperative Research and Service Division of the Farm Credit Administration with the cooperation of colleges of agriculture, the National Frozen Food Locker Association, and State locker associations, 1,200 of the estimated 2,500 locker plants operating on January 1, 1940, provided satisfactory information on their operations. Of these plants, 85 percent had been opened since 1935 and 60 percent during 1938 and 1939. On this basis, it is estimated that plants

were being opened at the rate of about 750 per year or 62 per month during the latter 2 years. The reporting plants had an average capacity for 330 lockers each, of which an average of 211 were rented. Average capacity of plants operated by farmers' co-operatives was 359.

**I**NDIVIDUALS owned about one-half of the 1,200 locker plants reporting; commercial corporations, 22 percent; partnership, 16 percent; and cooperatives, 14 percent. The percentage of plants opened by commercial corporations declined during the 1935 to 1939 period whereas other types of ownership increased in importance.

Of all plants reporting on January 1, 1940, 23 percent were operated with creamery, poultry, and milk plants; 18 percent with ice and ice cream plants; 25 percent with groceries and meat markets; while units operated separately made up 21 percent of the total. The latter two types increased as a percentage of the total during the period 1935 through 1939, whereas the first two declined. The separate units reporting were largest, with a capacity for 431 lockers, while those operated by retail meat markets and grocery stores were smallest, with an average capacity for 231 lockers.

Approximately two-thirds of the 2,500 plants operating on January 1, 1940, were in the 12 North Central States. Leading States in the number of plants were: Iowa, 453; Washington, 313; Minnesota, 263; Wisconsin, 217; Nebraska, 160; Illinois, 152; Oregon, 98; and Texas, 81. Considerable expansion is taking place in the South Central and Western States. In the South, expansion is most rapid in Texas, Tennessee, Mississippi, and Alabama.

**T**HE rapid expansion of this industry during the last decade may be traced to a number of factors: (1) the improvement in automatic temperature controls and greater use of electricity; (2) the advance in freezing technique

and more widespread understanding of sharp freezing and low-temperature storage as a method of food preservation; (3) the greater variety and palatability of properly frozen foods as compared to the home-canned food supply; and (4) the savings resulting when home or locally grown animals are processed rather than bought at retail. With usual locker-plant charges and locker use, the savings have been estimated to be 9 cents per pound on beef and 5 cents on pork.

That farmers are benefiting from this development in the food industry is indicated by the fact that three-fourths of the patrons in the plants reporting were farmers and that 70 percent of the plants in the North Central and Western States were in towns of less than 5,000 population. Although the development thus far has been largely in more or less rural communities, an increasing number of plants are operating in larger urban centers. Their function is chiefly that of processing and storing meats, fruits, vegetables, fish, and sea foods purchased at wholesale.

Rates charged for lockers and related services vary from one community to another as well as from area to area. Annual locker rental rates range from \$7 to \$15 per locker. The usual rates are \$10 and \$12. The size of the regular locker is between 5½ and 6 cubic feet. In the Pacific Northwest, many lockers are larger. Charges for chilling, cutting, grinding, wrapping, and freezing meat range from 65 cents to \$2 per hundred pounds although most often they are \$1.25 to \$1.50; freezing and handling fruits and vegetables, 1 to 3 cents per quart; curing and smoking, 3 to 5 cents per pound; lard rendering, 1½ to 3 cents per pound; and slaughtering, \$1 to \$2 for the average hog and \$1.50 to \$2.50 for the average beef. It seems reasonable to assume that eventually there will be less variation in these charges and that they will be adjusted to costs plus a reasonable rate of return on the investment.

ASSUMING that three-fourths of all lockers used are rented by farmers, it may be concluded that approximately one-half million, or 8 percent of the total number of farm families in the United States, were using this service at the beginning of 1941. Whether this percentage will be increased to 20 or 50 percent during the next 10 years will depend upon the rates as well as the quality and type of service rendered. These will depend, in turn, upon the cost of furnishing locker services and the type of plant which is set up to render the services.

Studies of locker plant operation indicate that two all-important factors control the cost of furnishing modern locker service to farmers. The first is volume or size of the business. Other things being equal, the larger the plant the lower the investment per locker of capacity. Whereas small complete processing units of 200 lockers each with modern equipment might cost \$40 per locker, a unit of 500-locker capacity with comparable equipment might call for an invest-

ment of only \$30 per locker. Further, the unit servicing 500 lockers may have adequate volume to utilize some specialization in labor. This should mean better service as well as lower costs. The larger processing unit would be in a better position to provide modern facilities for rendering supplementary services such as slaughtering, curing, smoking, and lard rendering.

A second important factor controlling cost is the utilization of plant capacity. This results from the relatively large proportion of fixed costs. A 500-locker plant may have interest, depreciation, taxes, insurance, water, and power costs amounting to \$3,500 even though only 50 percent of its lockers are rented. This would be \$14 per locker rented. If all lockers were rented, however, this cost would be approximately \$7 per locker rented. It is very important, therefore, that the plant be built to fit the effective demand of the community.

S. T. WARRINGTON,  
*Farm Credit Administration.*

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## Farm Manure: Valuable Product

IT would cost farmers more than \$1,500,000,000 a year to buy in commercial fertilizers the plant food contained in manure produced on their farms. The value of these manures is greater than that of corn, our most valuable farm crop. The gross value of milk produced is the only farm product that exceeds manure in value. And yet, about 20 percent of the manure is practically wasted and still greater quantities of the plant foods lost, largely by leaching, before the manure is applied to the land.

The soils of the country receive each year about 1 billion tons of farm manures and 8 million tons of commercial fertilizer. The fertilizer costs farmers about \$200,000,000. More

efficient handling of farm manure will be to the advantage of farmers, especially in the years just ahead. Demand of the munition industry for nitrogen materials is likely to increase materially in conjunction with the defense program and, with smaller supplies available for fertilizer use, somewhat higher prices for nitrogen fertilizers may develop.

As a result of the war, ocean shipping rates have increased sharply; and, industrial wage rates are rising. Consequently fertilizer manufacturers face increasing costs. Under these conditions, farmers may have to pay more for their fertilizer. Saving of plant food in manures by efficient handling pays in normal times, but,

**Average Quantity Farm Manure Applied Per Acre to Specified Crops Harvested  
in 1938 and Use of Manure Spreaders, by States, 1939**

Geographic divisions	Corn	Wheat	Oats	Cotton	Potatoes	Sugar- beets	Manure spread with spreader
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Percent</i>
New England.....	9.4	(1)	1.6		2.9		58
Middle Atlantic.....	5.1	1.4	.7		4.3		56
East North Central.....	2.5	.9	.4		5.9	2.5	74
West North Central.....	1.5	.2	.2		2.8	1.7	72
South Atlantic.....	.5	.6	1.4	0.3	2.1		19
East South Central.....	.3	.3	(1)	.3	2.2		11
West South Central.....	.2	.1	(1)	.1	2.4		8
Mountain.....	.5	.2	.6	(1)	3.4	7.3	51
Pacific.....	3.9	.1	.7	(1)	1.3	1.0	46
Average for States reporting.....	1.4	.3	.3	.2	3.6	4.0	58

<sup>1</sup> No information was obtained relative to manure use on specified crop.

<sup>2</sup> Includes only Delaware, Maryland, Virginia, and West Virginia.

with higher fertilizer prices, the savings will be even more pronounced.

**I**N the United States, there are wide variations in the extent of manure use, according to reports from more than 25,000 crop correspondents. These reports show that per-acre applications of manure to cropland are heavy in the northeastern and North Central States. In these sections, livestock numbers are large relative to acreage of cropland, the pasture season is relatively short, and most livestock are housed during the winter season.

Little manure is applied to cropland in the South, or to nonirrigated cropland in the Great Plains and Mountain States. In the South, livestock numbers are small in relation to cropland, and the pasture season is relatively long. On dry land farms in the Great Plains and Mountain States, livestock numbers in relation to cropland are small. Also, in these dry land areas, applications of manure tend to give relatively small increases in crop yields owing to the deficiency of soil moisture, and many farmers apparently do not think it worth while to apply the accumulations of farm manure to their cropland.

**A**BOUT 75 percent of the total manure applied to crop and pasture land is used on land in the 6 crops included in this study. These crops—

corn, wheat, oats, cotton, potatoes, and sugar beets—occupied about two-thirds of the acreage of land used in crop production in 1938.

Corn is the heaviest user, and probably around 50 percent of the total manure hauled out from barns and feed lots is put on land to be planted to corn. Applications of manure on corn land are heaviest in New England. They are also relatively high in the Middle Atlantic and East North Central States. Little manure is applied to corn land in the Great Plains, the Mountain, or Southern States.

The per-acre applications of manure on wheat and oats for the country as a whole averaged only about 20 percent as much as for corn. Wheat acreage is relatively concentrated in the dry land areas of the Great Plains and Mountain States. However, even in the North Central and Northeastern States, less manure is applied to small grain than to corn. Heavy applications of manure to wheat and oats tend to cause excessive plant growth that results in increased losses from lodging and from disease. On the other hand, corn is a vigorous feeder and yield increases are marked with heavy applications of manure. Consequently, farmers generally prefer to apply manure to this crop rather than to small grains. All the plant food from manure is not used up following its application in the first year. Thus, small grain which often follows corn

in rotation benefits from the manure applications to the corn.

**C**OTTON land gets very little farm manure. Livestock numbers are small in relation to cropland in most cotton areas. This together with the long pasture season accounts for the small manure application on cotton. Manure applications are small in all cotton areas but are larger in the States east of the Mississippi River than in the States west. Cotton receives relatively heavy applications of commercial fertilizers, about two and one-half times as much as the cropland average for the country as a whole. Most of this is applied to cotton in the Eastern States.

Per-acre applications of manure to potatoes and sugar beets are much heavier than for other crops in the study. In the Middle Atlantic, the New England, and the Pacific Coast States per-acre applications averaged less for potatoes than for corn. For all other groups of States, manure applications are much heavier for potatoes than for corn. For the country as a whole, acre applications

of manure averaged about 50 percent more for potatoes than for corn, with the heaviest applications in the East North Central States. Manure applications for sugar beets were especially heavy in the Mountain States, but in other States, manure applications for sugar beets averaged less than for potatoes.

**M**ETHODS of handling manure vary largely with the quantity applied. When small quantities are to be applied, hand methods for spreading the manure are commonly used. Machine spreaders are used most in the North Central States and least in the South Central States. In the New England and Middle Atlantic States, about the same proportion of manure is hauled with spreaders as is so hauled for the country as a whole. The use of the spreader in the Mountain and Pacific Coast States is somewhat below the average for the entire country. For the country as a whole almost 60 percent of the manure hauled was applied to crop and pasture land with spreaders.

A. P. BRODELL and R. C. TETRO.

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## Changes in the Farm Population

**T**HE farm population on April 1, 1940, was 30,475,000, or virtually the same as in 1930, according to the Bureau of the Census. But there were large decreases in some regions and States, and considerable increases in others.

Drought, mechanization, and a trend toward larger farms with a smaller resident labor force are clearly reflected in some sections, and high birth rates and a damming up of rural youth in others. In the industrial areas there appears to have been an increase in small and part-time farming units. New frontiers also have been developed in widely scattered parts of the country—on cut-over lands, swamp lands, and dry lands.

Moreover, in many parts of the country there was a net movement from farms to towns and cities, as there had been during most of the preceding 20 years.

**L**ARGEST decreases were reported in the Great Plains States. South Dakota led with a loss of 21 percent, and North Dakota, Montana, Nebraska, Colorado, and Kansas showed losses of more than 10 percent. Except for New Mexico, all of the States included in the Great Plains reported fewer people living on farms in 1940 than in 1930. These figures reflect the history of agriculture in that region during the last 10 years—protracted droughts and crop failures, the

changing over to larger farming units and to grazing, as well as the reaction from the rapid expansion which took place as an aftermath of World War I. But the influence of drought is unmistakable; in each of these States the counties in which drought distress was most marked reported the greatest losses in population.

Less rapid decreases in farm population were reported in Utah and Nevada; Iowa and Illinois in the Corn Belt; in Arkansas, Georgia, South Carolina, and Virginia among the Southern States; in Delaware, New York, Vermont, and Rhode Island. Vermont is the only one of this group of States which also reported a decline in total population.

**L**ARGE increases in farm population were reported in five areas, but the reasons for these increases do not appear to be the same in all of these areas. In New England and most of the northern and eastern industrial States there appears to have been an increase in suburban and part-time farming units. (Some of this increase in New England may represent a more complete enumeration of small and part-time farming units in 1940 than in 1930.) In the Pacific Northwest and in California, the inflow of settlers from the Great Plains and other States was probably the major factor. In the Southwestern States, New Mexico, and Arizona, a combination of high birth rates and of in-migration was probably responsible. Florida expanded its agriculture and its farm population. West Virginia, with a rate of increase which was exceeded only by that for Connecticut, appears to reflect the results of high birth rates and a growth of subsistence and part-time farming, especially by people who were already living in the country and who turned to farming when outside employment was difficult to find.

**A**LTHOUGH the number of persons living on farms was reported as about the same in 1930 and 1940, the Census reported a decrease of 3 percent

in number of farms. This decrease in number of farms can be accounted for by the decrease in number of sharecroppers in the Southern States. If sharecroppers in both periods had not been classified as farm operators, the Census would have reported a small increase instead of a decrease in total number of farms. The number of sharecroppers was reported as only 541,291, a decrease of nearly one-third, or about 235,000, whereas the number of other tenants decreased by only 68,000. The 3 Southern Divisions contributed unequally to the decreases in the number of sharecroppers: the South Atlantic States reported a decrease of 68,000, of which Georgia alone contributed 40,000; the East South Central reported a decrease of 49,000; but the West South Central States, Arkansas, Louisiana, Oklahoma, and Texas, reported a reduction of nearly one-half in the number of sharecroppers—a loss of 118,000 sharecroppers. In these four States there was also a decline in the number of “other tenants.”

**T**HE effects of these and other developments upon the number of people living on farms will be more clearly revealed when more detailed data become available. But a comparison of the changes in number of farms and the number of persons living on farms in each State provides some additional information on the developments which probably took place.

There are 30 States in which the average number of persons per farm increased. In 11 of them the number of farms declined more rapidly than the farm population; in 9, the number of farms declined while the farm population increased; and in 10, the farm population increased more rapidly than the number of farms. In all of these States there probably was a decrease of farm population in the more commercial farming areas, and an increase in number of farms and in farm population in the less commercial farming areas. In Kentucky, for example, the largest increases in

total population occurred in the mountain counties, but there were some decreases in the Blue Grass areas. With the exception of Virginia, each of the 13 Southern States is included in this group. All reported fewer sharecroppers; a development which might reduce the number of farms more than the number of persons living on farms, provided some of the former sharecroppers remained on the land as wage hands.

In another group, which includes 8 States, the Census shows that both farm population and the number of farms declined, but population declined more rapidly. With the exception of Utah, Iowa, and Illinois, these are Great Plains States. Here there apparently was an increase in the size of farming units with a consequent reduction of farm population. In addition, there probably was a heavy out-migration of young people, with the result that the families which remained were smaller than before. There may also have been an increase in the extent to which persons operate farms without living on them, and are therefore not counted as part of the farm population.

**I**N eight States, both farm population and number of farms are reported to have increased, but the number of farms grew more rapidly. In Massachusetts, Connecticut, and New Jersey this was probably due to an increase in small suburban farms; in the cut-over areas of Wisconsin and Minnesota the movement of small families to the cut-over areas may be a major factor; in the State of Washington there probably was a combination—an increase of suburban farms and a movement to cut-over lands. In Arizona and West Virginia, where birth rates are high, there apparently was a development of small farms on which the average size of family was about the same or smaller than for the State average.

Finally, there are two States, Nevada and Virginia, in which the

farm population decreased while the number of farms increased.

In general, the figures which are available to date indicate a considerable reduction in the farm population in the predominantly commercial agricultural areas and an increase in those areas in which commercial agriculture has not been highly developed, whether because of undeveloped agricultural resources or the lack of such resources. A considerable increase in part-time farming in the vicinity of large cities is suggested by the rapid increase in total population of the areas adjacent to large cities. For example, the cities of 100,000 or over reported an increase of only 4.5 percent, but the remainder of the counties in which they are located increased by 14.2 percent.

**O**NE major question cannot be answered with present data. The Bureau of Agricultural Economics had estimated an increase of 2,000,000 in the farm population from 1930 to 1940, based in part on the fact that the Census had reported an increase of 1,632,000 between 1930 and 1935. The 1940 Census, showing no net change for the decade, may indicate that net losses during the last half of the decade may have offset the increases during the first half. On the other hand, there may be a large number of persons who live in the open country and carry on sufficient agricultural operations to be counted in the farm population in periods of widespread industrial unemployment, as in 1934, but who contract their agricultural operations when nonfarm employment is more readily available, as in 1929 and 1939. These people could shift into or out of the farm population without changing residence. Another possibility lies in the difficulty of enumerating small scale agricultural operations with the result that in some areas the figures for 1930 and 1940 may not be directly comparable. As more detailed data become available, the influence of

these and other factors upon the comparisons will be more clearly revealed.

ONE important point becomes increasingly clear from the figures which have already been released. It is that the farm population as reported by the Census does not include all persons who get the major share of their living from the farm. The Census classification includes only those persons living on farms. But part of the decrease in farm population in the major crop growing areas is due to the fact that many farm laborers are no longer living on the farms. The Census shows a reduction in the number of white and Negro sharecroppers. Where sharecroppers have become wage hands, many have left the farms. On the other hand, there

are some areas in which an appreciable percentage of the operators are not living on the farms they operate: "suitcase" farmers, "town" farmers, and the like. Since the farm population, as defined by the Census, includes only those persons who actually live on farms, these other persons and their dependents are not included. While it is true that some of the people who live on farms do not make their living from farming, it is likely that this number is less than that of the people who make their living from farming without living on farms, including those who work on farms only seasonally. It may be, therefore, that in some States, the number of people making their living on farms is higher than the number reported as the farm population.

CONRAD TAEUBER.

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## MARGARINE

When the price of butter goes up the demand for margarine increases. This happened last year. Both production and consumption of margarine were moderately larger in 1940 than in 1939, and prices were slightly higher. Consumption totaled 319 million pounds, but this was about 19 percent less than the high record consumption of 397 million pounds in 1937.

\* \* \*

Cottonseed oil made up 45 percent of the total fats used in the manufacture of margarine last year, as contrasted with only 10 percent of the total a decade ago. Soybean oil accounted for an additional 34 percent of the total last year, as contrasted with less than 1 percent a decade ago. Ten years ago the bulk of the fats used in the production of margarine consisted of foreign oils; last year the foreign oils accounted for only 11 percent of the total.

Margarine is manufactured in comparatively few States. About 58 percent of the total output in the fiscal year 1939-40 was in Illinois, Ohio, and Indiana. California, Kansas, and New Jersey followed with 26 percent of the total. Most of the remainder was produced in Michigan, Texas, Maryland, and Missouri . . . Consumption varies widely. The total number of licensed dealers decreased in most States in 1939-40, although significant increases occurred in Connecticut, Alabama, Mississippi, Arkansas, Louisiana, and Washington.

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Margarine has been used as a cooking as well as a table fat in recent years. According to the Census of Manufactures, 31 million pounds—or more than 10 percent of total consumption—was used in the bakery industry in 1939. Large quantities are used for cooking in restaurants and households. Manufacturers recently have been trying to improve margarine for frying purposes.

# Farm Products: Producer to Consumer

A SCORE OF YEARS ago the farm magazines and farmer organizations were asking: *What Happens in the Dark?* Rough comparisons were made of the prices received by farmers and the prices paid by consumers, and the accusation was made that the machinery of distribution was taking too large a slice of the consumer's food dollar. Some public investigation were made of the processes of marketing and distribution. These ended with the more or less general conclusion that the marketing and distribution of farm products had become pretty complex, that there were a multiplicity of services and charges, but that no individuals in the long chain of distribution seemed to be taking an inordinate profit.

Today, considerably more is known about the processes and costs of marketing and distribution, even though these processes have become increasingly complex. Some of the many changes which have taken place in the processing and distribution of food products have tended to increase marketing costs, others have tended to decrease the costs. In general, consumers are getting much more in the way of goods and services from the marketing system now than a quarter century ago—they are buying baked bread rather than flour, canned instead of raw fruits, small-packaged rather than bulk food. All this adds to the cost of marketing, and partly explains the increased spread between farm and retail prices.

THE accompanying chart shows how farm and retail prices have fluctuated during the last 28 years. It shows that whereas farmers received a half or more of the consumer's food dollar during the early years of this period, the farmer now gets considerably less than half of this dollar. In some years the farmer has received little more than a third, and in most o

For a number of years the Bureau of Agricultural Economics has been studying the marketing of farm products. Methods and costs of marketing, processing, and distribution have been studied at first hand, and analyzed in terms of the public welfare. Studies have covered most of the processes through which farm products pass—from production and assembly at country points, through transport, processing and storage, to wholesale and retail distribution. The machinery of processing and distribution is very different than it was a quarter century ago.

We have asked the Bureau's marketing specialists to bring together in a group of short articles the high lights of this marketing research, to tell what they have learned, and to indicate as nearly as may be the major problems pressing for solution in a marketing system which should yield maximum benefits to all the agencies concerned—from producer to consumer. The subject seems particularly timely now that public attention is being redirected to the costs and processes of marketing. The accompanying article is the first in this series.—Ed.

the years since World War I his share has never been as much as it was in those days of *What Happens in the Dark?*

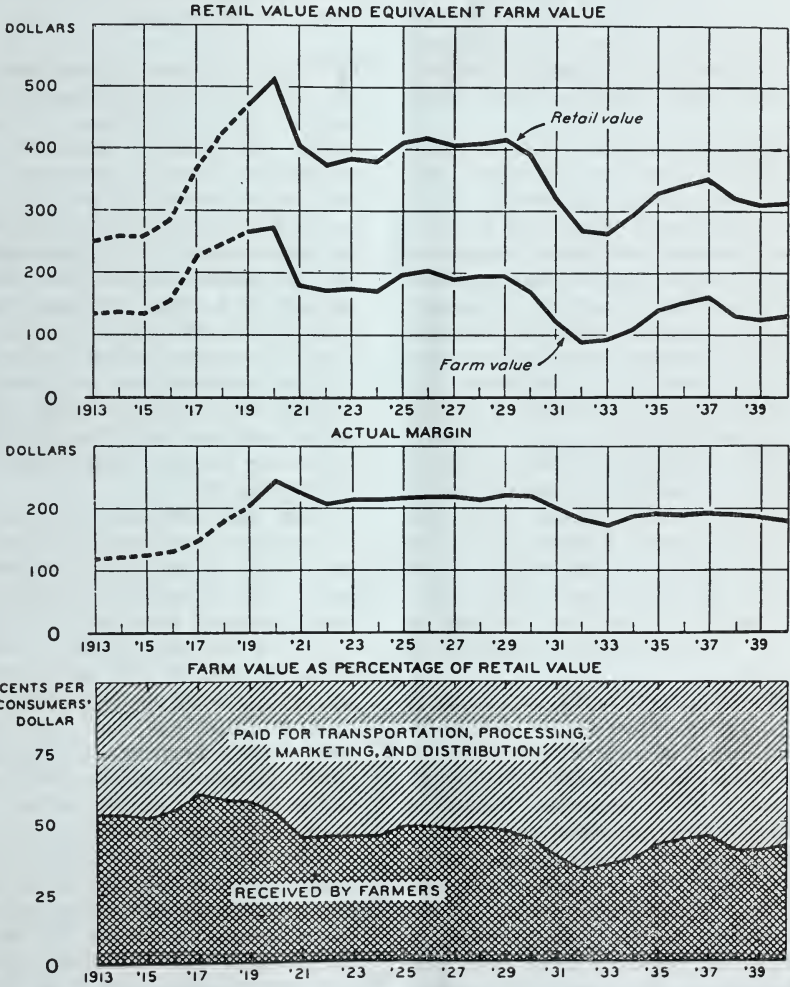
The charges made for all marketing services are equal to the margins or spreads between the prices paid by consumers at retail and the prices received by farmers for equivalent quantities of farm products. A striking characteristic of charges for marketing services is their stability in relation to the wide variation in retail value and farm value. The existing organization of agricultural production and marketing puts the

middleman in a relatively favorable position. Middlemen singly or as a group appear to be more successful in their efforts to maintain charges and revenue than are farmers in attempts to sustain farm prices and incomes.

IT is possible to make only rough approximations of the total marketing bill and its division into charges for the services performed under particular marketing functions. In 1940 consumers spent about 14.8 billion dollars for food products pro-

duced by American farmers. Total payments to farmers for producing these foods amounted to 6.2 billion dollars. The national marketing bill was 8.6 billion dollars. Of this total about 3.6 billion dollars was the charge for retailing services, 1.2 billion the charge for wholesale distribution, 0.8 billion for transportation, and 3.0 billion for processing and local assembly. The importance of marketing in contributing to the final value of consumers' goods can perhaps be best illustrated by a division of the dollar

RETAIL AND FARM VALUE OF 58 FOODS, 1913-40  
(BASED ON AMOUNT CONSUMED ANNUALLY BY A TYPICAL WORKINGMAN'S FAMILY)



spent by the consumer at retail into the share going to pay primary producers for their products and the share going to pay middlemen for marketing services. This division reflects the value appraisal in the market of the contributions of each. In 1940 the average dollar spent by the consumer for foods grown on American farms was broken up into 58 cents paid to marketing agencies and 42 cents paid to farmers. In terms of normal levels, consumer expenditures for cotton products are divided into about 10 percent paid to cotton growers for lint cotton and 90 percent paid to middlemen. For tobacco the farmer's share is roughly the same—about 10 percent—with 90 percent going to pay processing, transportation, storage, taxes, and distribution.

**D**URING the last several decades, the portion of consumers' expenditures going to farmers for their products has decreased while the portion taken by middlemen in payment for marketing services has increased. It is inaccurate, however, to conclude that the persistent shrink in the share of the consumer's dollar going to the farmer necessarily demonstrates that the situation of the farmer is getting progressively worse. The downward trend in the farmer's share is largely a result of modern progress towards increasing specialization which has introduced new processes and added services into the marketing system while the farmer has shifted from diversified to specialized farming in areas far removed from consumption centers.

The farmer ordinarily cannot expect to improve his position by taking over and performing the functions of middlemen and thus carry his product directly to the consumer. Certain of the marketing operations, particularly processing and transportation, require specialized and expensive equipment which is beyond the reach of the individual farmer. The shifting of time and resources from farm production to marketing would require

sharp curtailment in the scale of agricultural production and would restrict farming to areas adjacent to consuming centers. Many farmers, however, have combined into group cooperatives owning and managing agencies which successfully perform specific marketing functions.

The normal trend of industrial and agricultural development is in the opposite direction towards increased specialization in farm production and marketing with consequent increase in the relative importance of marketing and a further reduction in the farmer's share of the consumer's dollar spent for farm products, although net farm income should increase.

**T**HE middleman is performing a difficult and essential task which requires labor, equipment, and materials. His costs of operation are substantial. Numerous investigations have demonstrated that as a rule the net profits of the typical middleman are not excessive. While a few firms may be obtaining large profits, others operate at a loss. On many food products the net profit (including returns to capital) of all marketing agencies combined does not exceed 5 cents of the consumer's dollar. The average net profit on all farm products is probably not more than 10 percent of the retail price.

Direct labor costs are the dominating single expense item in marketing farm products, amounting to nearly half the total operating expenses for most marketing functions, and about a third of the value added in manufacturing. In certain agencies the aggregate of direct nonlabor costs may be more important than the direct labor costs. Payments to labor by marketing agencies add to the stream of consumer incomes and increase the demand for farm products.

Inefficiency in marketing results from the use of excessive amounts of labor and capital resources in performing a specific marketing operation. To the extent that inefficient marketing employs persons who would other-

wise be idle or on relief, it operates to equalize real incomes. Even though this may result in higher costs and increased prices to consumers, additional workers are enabled to buy.

The social gain from increased marketing efficiency attained through reducing the number of man-hours required in marketing operations will depend upon how effectively the displaced labor is utilized elsewhere. However, the selfish interest of the farmer is best served when labor requirements in marketing are reduced, even though that labor is unemployed or paid a much lower rate elsewhere. The farmer also makes a direct gain in prices received through any increases in wages or employment in agencies not concerned with marketing of farm products.

WE must not conclude, merely because such profits as exist in marketing enterprises seem reasonable, that nothing can be done to reduce marketing costs. The costs which exist today in many cases are erected upon a foundation of inefficient organization and outmoded facilities which not only weigh upon consumers and producers but also penalize middlemen themselves. New methods, reorganization of marketing processes, and the providing of adequate modern facilities should improve the position of the middlemen and at the same time benefit both farmers and consumers.

R. O. BEEN.

Processes and problems in the assembly of farm products at country points will be discussed next month.

United States: Exports and Imports of Specified Agricultural Commodities, September-February 1939-40 and 1940-41 and February 1940 and 1941 <sup>1</sup>

Commodities	Unit	September-February		February	
		1939-40	1940-41	1940	1941
Exports:					
Pork:		<i>Thousands</i>	<i>Thousands</i>	<i>Thousands</i>	<i>Thousands</i>
Cured pork <sup>2</sup> .....	Pounds.....	37,305	6,842	6,417	1,236
Other pork <sup>3</sup> .....	do.....	59,422	11,997	21,265	1,537
Total pork.....	do.....	96,727	18,939	27,682	2,773
Lard, including neutral.....	do.....	141,529	71,181	25,133	14,830
Wheat, including flour.....	Bushels.....	23,430	18,089	3,817	2,484
Apples, fresh <sup>4</sup> .....	do.....	2,455	573	158	52
Pears, fresh.....	Pounds.....	62,865	13,705	772	577
Tobacco, leaf.....	do.....	176,674	68,638	17,737	13,551
Cotton, excluding linters (500 pounds).....	Bales.....	4,959	705	788	72
Imports:					
Cattle.....	Number.....	282	350	39	78
Beef, canned, including corned.....	Pounds.....	44,122	26,164	6,445	6,242
Hides and skins <sup>5</sup> .....	do.....	172,010	230,116	32,149	35,183
Barley malt.....	do.....	33,479	18,433	3,969	2,893
Sugar, cane (2,000 pounds).....	Tons.....	1,502	1,342	261	336
Flaxseed.....	Bushels.....	5,451	5,357	1,763	1,285
Tobacco leaf.....	Pounds.....	30,639	32,215	4,830	4,505
Wool, excluding free in bond for use in carpets, etc.....	do.....	96,280	211,868	21,086	54,427

<sup>1</sup> Corrected to March 28, 1941.

<sup>2</sup> Includes bacon, hams, shoulders, and sides.

<sup>3</sup> Includes fresh, pickled or salted and canned pork.

<sup>4</sup> Includes baskets, boxes, and barrels in terms of bushels.

<sup>5</sup> Excludes the weight of "other hides and skins" which are reported in pieces only.

Office of Foreign Agricultural Relations. Compiled from official records, Bureau of Foreign and Domestic Commerce.

# Economic Trends Affecting Agriculture

Year and month	Indus- trial pro- duction (1935- 39=100) <sup>1</sup>	Income of indus- trial workers (1924- 29=100) <sup>2</sup>	Cost of living 1924- 29=100) <sup>3</sup>	Whole- sale prices of all commod- ities <sup>4</sup>	(1910-14=100)			Farm wages	Taxes <sup>5</sup>
					Prices paid by farmers for commodities used in —				
					Living	Pro- duc- tion	Living and produc- tion-		
1925	91	98	101	151	164	147	157	176	
1926	96	102	102	146	162	146	155	179	270
1927	95	100	100	139	159	145	153	179	271
1928	99	100	99	141	160	148	155	179	277
1929	110	107	99	139	158	147	153	180	279
1930	91	88	96	126	148	140	145	167	281
1931	75	67	88	107	126	122	124	130	277
1932	58	46	79	95	108	107	107	96	253
1933	69	48	75	96	109	108	109	85	219
1934	75	61	77	109	122	125	123	95	187
1935	87	69	79	117	124	126	125	103	178
1936	103	80	80	118	122	126	124	111	180
1937	113	94	83	126	128	135	130	126	182
1938	88	73	81	115	122	124	122	125	187
1939	108	83	80	113	120	122	121	123	186
1940	122	94	81	115	121	124	123	126	190
1940—March	113	87	81	114	121	125	123		
April	111	86	81	115			123	124	
May	115	87	81	114			123		
June	121	89	81	113	121	125	123		
July	121	91	81	113			122	129	
August	121	95	81	113			122		
September	125	98	81	114	121	123	122		
October	129	100	81	115			122	129	
November	132	103	81	116			122		
December	138	107	81	117	122	125	123		
1941—January	139	109	81	118			123	124	
February	141	110	81	118			123		
March <sup>7</sup>				119			123		

Year and month	Index of prices received by farmers (August 1909-July 1914=100)								Ratio of prices received to prices paid
	Grains	Cotton and cotton-seed	Fruits	Truck crops	Meat animals	Dairy products	Chickens and eggs	All groups	
1925	157	177	172	153	140	153	163	156	99
1926	131	122	138	143	147	152	159	145	94
1927	128	128	144	121	140	155	144	139	91
1928	130	152	176	159	151	158	153	149	96
1929	120	144	141	149	156	157	162	146	95
1930	100	102	162	140	133	137	129	126	87
1931	63	63	98	117	92	108	100	87	70
1932	44	47	82	102	63	83	82	65	61
1933	62	64	74	105	60	82	75	70	64
1934	93	99	100	103	68	95	89	90	73
1935	103	101	91	125	118	108	117	108	86
1936	108	100	100	111	121	119	115	114	92
1937	126	95	122	123	132	124	111	121	93
1938	74	70	73	101	114	109	108	95	78
1939	72	73	77	105	110	104	94	93	77
1940	85	81	79	114	108	113	96	98	80
1940—March	92	85	73	118	102	114	83	97	79
April	96	85	81	128	104	110	82	98	80
May	92	83	88	117	108	106	84	98	80
June	83	81	104	112	102	104	81	95	77
July	78	80	89	98	110	105	88	95	78
August	76	77	79	107	110	109	90	96	79
September	77	76	73	114	114	111	104	97	80
October	80	78	79	99	112	116	112	99	81
November	83	79	71	98	112	121	120	99	81
December	81	79	75	93	111	128	122	101	83
1941—January	84	80	78	117	130	121	100	104	7 85
February	81	80	80	156	130	118	90	103	7 84
March	84	82	83	134	129	118	90	103	7 48

<sup>1</sup> Federal Reserve Board, adjusted for seasonal variation.

<sup>2</sup> Adjusted for seasonal variation.

<sup>3</sup> Monthly indexes for months not reported by the Bureau of Labor Statistics are interpolated by use of the National Industrial Conference Board cost-of-living reports.

<sup>4</sup> Bureau of Labor Statistics index with 1926=100, divided by its 1910-14 average of 68.5.

<sup>5</sup> These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

<sup>6</sup> Index of farm real estate taxes per acre. Base period represents taxes levied in the calendar years 1909-13, payable mostly within the period Aug. 1, 1909-July 31, 1914.

<sup>7</sup> Preliminary.

NOTE.—The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The base periods are different. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is based on volume only, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and in workers' income, since output can be increased or decreased to some extent without much change in the number of workers.